



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2018-0587; Product Identifier 2018-NM-054-AD; Amendment 39-19451; AD 2018-20-17]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc., Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2012-22-10, which applied to certain Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. AD 2012-22-10 required repetitive inspections to determine that cotter pins are installed at affected wing-to-fuselage attachment joints and replacement if necessary. This AD retains the initial inspection of the wing-to-fuselage attachment joints, and removes the repetitive inspections of all but the forward keel beam attachment joint. This AD also changes the repetitive inspection interval for the forward keel beam attachment joint. This AD was prompted by a determination that additional nuts of the forward keel beam attachment joint should be inspected, and that repetitive

inspections of certain wing-to-fuselage attachment joints are not necessary. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 514-855-5000; fax 514-855-7401; e-mail [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0587.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0587; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone:

800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Andrea Jimenez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7330; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2012-22-10, Amendment 39-17246 (77 FR 67267, November 9, 2012) (“AD 2012-22-10”). AD 2012-22-10 applied to certain Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The NPRM published in the Federal Register on July 9, 2018 (83 FR 31705). The NPRM was prompted by a determination that additional nuts of the forward keel beam attachment joint should be inspected, and that repetitive inspections of certain wing-to-fuselage attachment joints are not necessary. The NPRM proposed to retain the initial inspection of the wing-to-fuselage attachment joints, and remove the repetitive inspections of all but the forward keel beam attachment joint. The NPRM also proposed to change the repetitive inspection interval for the forward keel beam attachment joint. We are issuing

this AD to address loss of the wing-to-fuselage attachment joints, which could result in loss of the wing, and consequent reduced, or complete loss of, controllability of the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2012-10R1, dated January 22, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states:

The manufacturer has determined that wing-to-fuselage attachment nuts, part number (P/N) SH670-35635-1, SH670-35440-951, SH670-35440-3, SH670-35635-1, and 95136D-2412, installed at six attachment joint locations, do not conform to the certification design requirements for dual locking features. The nuts are not of the self-locking type as required and do not provide the frictional thread interference required to prevent the nut from backing off the bolt. As a result, only a single locking device, the cotter pin, is provided at these critical joints. In the case where a nut becomes loose, in combination with a missing or broken cotter pin, the attachment bolt at the wing-to-fuselage joint could migrate and fall out. Loss of two attachment joints could potentially result in the loss of the wing.

The original version of this [Canadian] AD [which corresponds to FAA AD 2012-22-10] mandated initial and repeat detailed visual inspections (DVI) of each affected wing-to-fuselage attachment joint to ensure that a cotter pin was installed.

Design review and analysis of the inspection findings since the original issue of this [Canadian] AD have led us to

determine that additional nuts at the forward keel beam joint should also be included in the inspection and that the repetitive inspection of some wing-to-fuselage attachment joints is not required. This [Canadian] AD maintains the initial inspection requirements [for missing or failed (...) cotter pins] for six attachment joint locations, and removes the repetitive inspection requirements for all but the forward keel beam attachment joint. This [Canadian] AD also requires a different repetitive inspection interval, and the [Canadian] AD applicability has been changed for the initial inspection to account for changes made in production.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0587.

#### **Comments**

We gave the public the opportunity to participate in developing this final rule. We have considered the comment received. The Air Line Pilots Association, International (ALPA) reviewed and expressed support for the NPRM.

#### **Clarification of Credit Paragraph**

We have removed paragraph (j)(2) of the proposed AD and redesignated paragraph (j)(1) of the proposed AD as paragraph (j) of this AD because the airplanes identified in paragraph (j)(2) of the proposed AD are included in paragraph (j)(1) of the proposed AD. We have also clarified in paragraph (j) of this AD that any previous inspection done using earlier revisions of the service information is acceptable.

#### **Conclusion**

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule with the changes

described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

#### **Related Service Information under 1 CFR part 51**

Bombardier, Inc. has issued Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017. This service information describes procedures for detailed inspections of the wing-to-fuselage attachment joints, and of the attachment nuts at the forward keel beam attachment joint for missing or failed cotter pins. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **Costs of Compliance**

We estimate that this AD affects 274 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

##### **Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
11 work-hours X \$85 per hour = \$935	\$100	\$1,035	\$283,590

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD. We have no way of determining the number of aircraft that may need these actions

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2012-22-10, Amendment 39-17246 (77 FR 67267, November 9, 2012), and adding



the following new AD:

**2018-20-17 Bombardier, Inc.:** Amendment 39-19451; Docket No. FAA-2018-0587;

Product Identifier 2018-NM-054-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2012-22-10, Amendment 39-17246 (77 FR 67267, November 9, 2012) (“AD 2012-22-10”).

**(c) Applicability**

This AD applies to the airplanes identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD, certificated in any category.

(1) Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10002 and subsequent.

(2) Bombardier, Inc., Model CL-600-2D15 (Regional Jet Series 705) airplanes and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 and subsequent.

(3) Bombardier, Inc., Model CL-600-2E25 (Regional Jet Series 1000) airplanes, serial numbers 19001 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

**(e) Reason**

This AD was prompted by a report that certain wing-to-fuselage attachment nuts do not conform to the certification design requirements for dual locking features, and a determination that additional nuts of the forward keel beam attachment joint should be inspected, and that repetitive inspections of certain wing-to-fuselage attachment joints are not necessary. We are issuing this AD to address loss of the wing-to-fuselage attachment joints, which could result in loss of the wing, and consequent reduced, or complete loss of, controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Initial Inspection of the Wing-to-Fuselage Attachment Joint**

For airplanes identified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD: Within 3,000 flight hours or 18 months, whichever occurs first after December 14, 2012 (the effective date of AD 2012-22-10), perform a detailed inspection for missing or failed cotter pins at each affected wing-to-fuselage attachment joint, in accordance with Part A through Part C of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017.

(1) Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10002 through 10337 inclusive.

(2) Bombardier, Inc., Model CL-600-2D15 (Regional Jet Series 705) airplanes and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 through 15299 inclusive.

(3) Bombardier, Inc., Model CL-600-2E25 (Regional Jet Series 1000) airplanes, serial numbers 19001 through 19037 inclusive.

**(h) Initial and Repetitive Inspections of the Attachment Nuts at the Forward Keel Beam Attachment Joint**

Within the compliance time specified in figure 1 to paragraph (h) of this AD: Perform a detailed inspection of the attachment nuts at the forward keel beam attachment joint for missing or failed cotter pins, in accordance with Part D of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017. Repeat the inspection thereafter at intervals not to exceed 8,800 flight hours, in accordance with Part E of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017.

**Figure 1 to Paragraph (h) of this AD –**  
*Compliance Time for Initial Inspection of Attachment Nuts at Forward Keel Beam Attachment Joint*

<b>Airplane Model and Serial Numbers (S/Ns)</b>	<b>Compliance Time</b>
Model CL-600-2C10 S/Ns 10002 through 10337 inclusive	Within 3,000 flight hours or 18 months, whichever occurs first after December 14, 2012 (the effective date of AD 2012-22-10)
Model CL-600-2C10 S/Ns 10338 and subsequent	Within 8,800 flight hours after the effective date of this AD
Model CL-600-2D15 and CL-600-2D24 S/Ns 15001 and subsequent	
Model CL-600-2E25 S/Ns 19001 and subsequent	

**(i) Corrective Action**

If any cotter pin is found missing or failed during any inspection required by this AD: Before further flight, replace the cotter pin using a method approved by the

Manager, New York ACO Branch FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(j) Credit for Previous Actions**

This paragraph provides credit for the inspections required by paragraphs (g) and (h) of this AD, if the inspection was performed before the effective date of this AD, using Bombardier Service Bulletin 670BA-53-042, dated December 21, 2011; or Bombardier Service Bulletin 670BA-53-042, Revision A, dated April 27, 2012.

**(k) Other FAA AD Provisions**

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: 516-228-7300; fax: 516-794-5531.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOCs approved previously for AD 2012-22-10, are approved as AMOCs for the corresponding provisions in paragraphs (g) and (h) of this AD.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2012-10R1, dated January 22, 2018, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0587.

(2) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7330; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (m)(4) of this AD.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 514-855-5000; fax 514-855-7401; e-mail [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 25, 2018.

John P. Piccola,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

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